

U.S. Patent Application No. 10/691,186  
Amendment dated September 29, 2006  
Reply to Office Action mailed May 2, 2006

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#### REMARKS

Continued examination and favorable reconsideration of the present application are respectfully requested.

Claims 219-259 are pending and remain in this application.

Applicants gratefully appreciate the courtesies extended by the Examiner to Applicants' undersigned representative and to inventor Dr. Timothy Woudenberg during the personal interview of September 21, 2006. At the interview, the art cited in the May 2, 2006, Office Action and the rejection set forth therein were discussed, as was the art cited in Applicants' Information Disclosure Statement dated September 20, 2006. More particularly, Applicants' undersigned representative pointed out that one of the documents included in the Information Disclosure Statement dated September 20, 2006, is a Verdict Form from the case of Applera Corporation and Roche Molecular Systems, Inc. v. MJ Research Inc. and Michael and John Finney, dated April 2, 2004, from the United States District Court for the District of Connecticut (case number 3:98-CV-1201 (JBA)). As pointed out during the personal interview, the cited Verdict Form establishes that the District Court found U.S. Patent No. 5,475,610 (the '610 patent) valid and infringed. As further discussed at the interview, the '610 patent is based on an earlier application that is related to the present application and has claims of similar scope, at least in some respects.

Also during the personal interview, Applicants' undersigned representative asserted that the applied Van Nostrand's reference specifically states that Newton's Law of cooling is useful for only roughly approximate computations. Furthermore, it was pointed out that in view of the temperature profile of a sample that would be heated and cooled in the claimed apparatus, one skilled in the art would not expect Newton's Law of cooling and/or an integration thereof to work in a system for cycling temperatures such as the thermal cycling apparatus presently claimed in independent claims

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219 and 239. Moreover, at the personal interview, inventor Dr. Timothy Woudenberg stated that after proposing the specific relationship

$$Tsamp_n = Tsamp_{n-1} + (TB_n - TSAMP_{n-1}) * tinterval/tau$$

set-forth in independent claims 219 and 239, he and the other inventors were surprised that the claimed apparatus using the relationship actually worked, and he stated that he and the other inventors did not expect the relationship to work.

Applicants gratefully acknowledge the indication in the Interview Summary dated September 21, 2006, that an agreement was reached with respect to the claims. Applicants appreciate the oral indications from the Examiner during the personal interview that all of the present pending claims appear to distinguish over the art of record and define patentable subject matter. Issuance of a Notice of Allowance directed to all pending claims is respectfully requested.

Applicants' also gratefully appreciate the indication at page 6 of the Office Action that claims 223-230 and 243-250, would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims. In view of Applicants' assertion that all pending claims are allowable, and the indication in the Interview Summary that an agreement has been reached, claims 223-230 and 243-250 have not been rewritten.

At page 3 of the Office Action, Claims 219-222, 231-242, and 253-259 were rejected under 35 U.S.C. §103(a) over Dean et al. (WO 89/09437, "Dean et al.") in view of Van Nostrand's Scientific Encyclopedia (Van Nostrand's). For the reasons set forth herein, this rejection is respectfully traversed.

At the personal interview, Applicants' representative and inventor Dr. Timothy Woudenberg pointed out that no integration of Newton's Law of Cooling as set forth in Van Nostrand's can result in the relationship recited in claims 219 and 239, whether or not Van

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Nostrand's is combined with Dean et al. Applicants' representative pointed out that perhaps the §103(a) rejection may have instead be intended to be based on the combination of Dean et al. with the discussion of Newton's Law Cooling in the American Journal of Physics, Volume 27, No. 7, pages 668-669 (1959) (The American Journal of Physics), that was cited by the Examiner in the Office Action of September 9, 2005. Regardless, neither Van Nostrand's, The American Journal of Physics, Dean et al., nor any combination thereof, discloses or suggests the relationship recited in claims 219 and 239, let alone an apparatus comprising a computing apparatus that controls a heating and cooling system by utilizing the recited relationship. Furthermore, as set forth above, the applied Van Nostrand's reference specifically states that Newton's Law of cooling is useful for only roughly approximate computations. Moreover, and as also discussed above, in view of the temperature profile of a sample that would be heated and cooled in the claimed apparatus, one skilled in the art would not expect Newton's Law of cooling and/or an integration thereof to work in a system for cycling temperatures such as the thermal cycling apparatus presently claimed in independent claims 219 and 239.

In view of the remarks set forth herein and the agreement reached at the personal interview, further and favorable reconsideration and withdrawal of the rejection are respectfully requested.

#### **Conclusion**

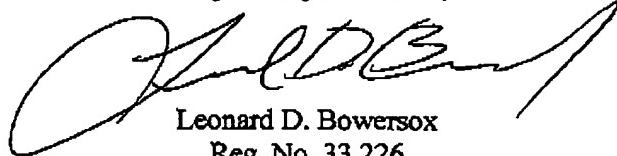
Applicants respectfully request favorable reconsideration of the present application and a timely allowance of the pending claims.

Should the Examiner deem that any further action by applicants or applicants' undersigned representative is desirable and/or necessary, the Examiner is invited to telephone the undersigned at the number set-forth below.

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If there are any other fees due in connection with the filing of this response, please charge such fees to Deposit Account No. 50-0925. If a fee is required for an extension of time not accounted for above, such extension is requested and should also be charged to said deposit account.

Respectfully submitted,



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